



Colorado River West Watershed Management Unit Water Quality Assessment - 2004 305(b)

The Colorado River West Watershed Management Unit includes all streams located in the U.S.G.S. Hydrological Units (HUCs) listed in Table 5-1. Some of the major streams are the Price River, Huntington Creek, Cottonwood Creek, Ferron Creek, San Rafael River, Escalante River, Muddy Creek, Dirty Devil River, the Fremont River, and portions of the Green River.

Hydrological Unit Code	Hydrological Unit Name
14060007	Price
14060008	Lower Green
14060009	San Rafael
14070001	Upper Lake Powell
14070002	Muddy
14070003	Fremont
14070004	Dirty Devil
14070005	Escalante
14070006	Lower Lake Powell
14070007	Paria

The intensive survey for this watershed was done from July 1, 2003 to June 30, 2004. Data from cooperators were also used to make assessments as well as the results from previous assessments. Benthic macroinvertebrate data were also used to evaluate the Escalante River and Calf Creek.

Beneficial Use Assessment-Streams were assessed against State water quality standards and pollution indicators to determine if their designated beneficial uses were being met. The streams in the Colorado River West Watershed Management Unit are classified as one of the following or a combination of the following beneficial use classifications: protected as a source of drinking water (1C), secondary contact recreation (2B), cold water game fish (3A), warm water game fish (3B), non-game fish and other aquatic life (3C), and agricultural use including irrigation and stock watering (4) (Figure 4).

There are an estimated 2,551 perennial stream miles within the Colorado River Watershed Management Unit. An assessment of at least one beneficial use was made on 1,919 miles of streams. Of these 1,339 (69.8%) miles were assessed as fully supporting at least one beneficial use, 134 miles (7.0%) were assessed as partially supporting, and 446 miles (23.2%) were assessed as not supporting at least one designated beneficial use (Figure 1).

Overall beneficial use support, based upon at least some but not all beneficial uses being assessed, was 1,340 miles (69.8%) were fully supporting, 134 (7.0%) partially supporting, and 446 miles (23.2.0%) as non supporting. Table 2 lists the beneficial use support by individual beneficial use classes. Seven-hundred eight (708) miles of Class 1C (source of drinking water) were assessed as fully supporting this beneficial use. One-thousand eight-hundred thirty-one (1,831) miles were assessed as supporting aquatic life beneficial uses. This was 95.4% of the stream miles assessed. Twenty-seven (27) miles were assessed as partially supporting and 25 miles as not supporting aquatic life. Of the, 1,694 miles were assessed for agricultural use, 1,202 (71.0%) were fully supporting, 76 miles (4.5%) partially supporting, and 416 (25.%) not supporting this beneficial use.

The major cause of water quality impairment was total dissolved solids (Figure 2). Other factors affecting beneficial uses were temperature, dissolved oxygen, and nutrients.

The major sources of impairment were natural sources and agricultural activities Figure 3. Aquaculture was identified as a source of nutrients on the Fremont River. About 4.3% of the sources of stream impairment were listed as unknown. The relative percent impacts by sources are shown in Figure 3.

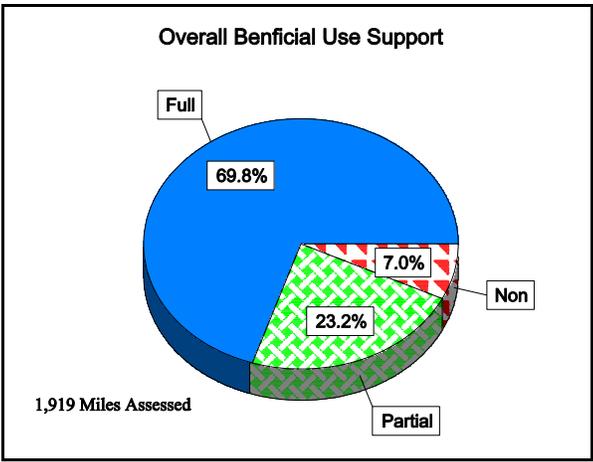


Figure 1. Overall beneficial use support based upon at least one beneficial use being assessed-Colorado River West.

Table 2. Individual Beneficial Use Support Summary Colorado River West Watershed Management Unit(Stream Miles)							
Goals	Use	Size Assessed	Size Fully Supporting	Size Fully Supporting but Threatened	Size Partially Supporting	Size Not Supporting	Size Not Attainable
Protect & Enhance Ecosystems	Aquatic Life	1,918.6	1830.9 95.4%	0.0	26.7 7.0%	24.5 23.2%	0.0
Protect & Enhance Public Health	Fish Consumption	0.0	0.0	0.0	0.0	0.0	0.0
	Swimming	0.0	0.0	0.0	0.0	0.0	0.0
	Secondary Contact	0.0	0.0	0.0	0.0	0.0	0.0
	Drinking Water	708.2	708.2 100.0%	0.0	0.0	0.0	0.0
Social and Economic	Agricultural	1,693.8	1,202.2 71.0%	0.0	75.6 4.5%	415.9 24.6%	0.0
	Total	1,918.6	1,339.3 69.8%		133.7 7.0%	445.6 23.2%	0.0

The streams within the Colorado River West Watershed Management Unit were also placed in new assessment categories: **Category 1**, all beneficial uses assessed and fully supporting; **Category 2**, some beneficial uses assessed and fully supporting; **Category 3**, not assessed; **Category 4A**, all TMDLs completed; **Category 4C**, waters impaired by pollution, not TMDL required; **Category 5A**, TMDL required (303(d) list); **Category 5B**, completed TMDL or request for removal from 303(d) list. The beneficial use assessment by categories is displayed in Figure 5.

Table 3 is a list of the categories with the number of stream miles assigned to each category. Specific assessment units within each category are published in Utah's 2004 305(b) report and provides

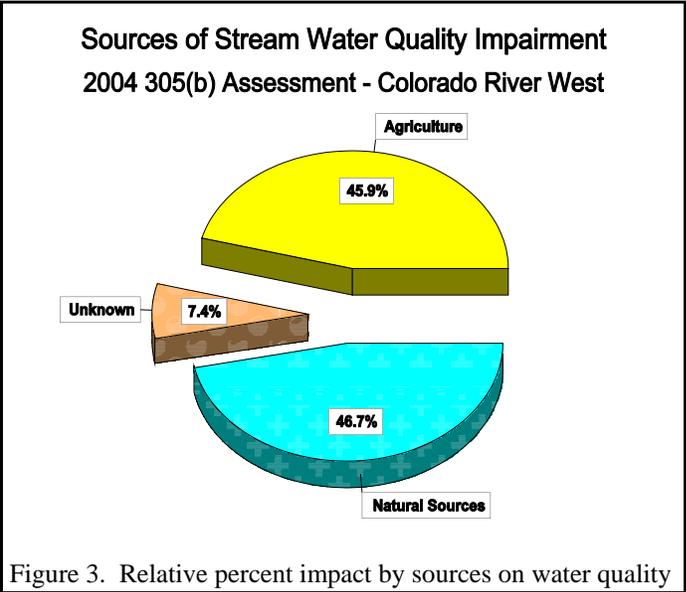


Figure 3. Relative percent impact by sources on water quality

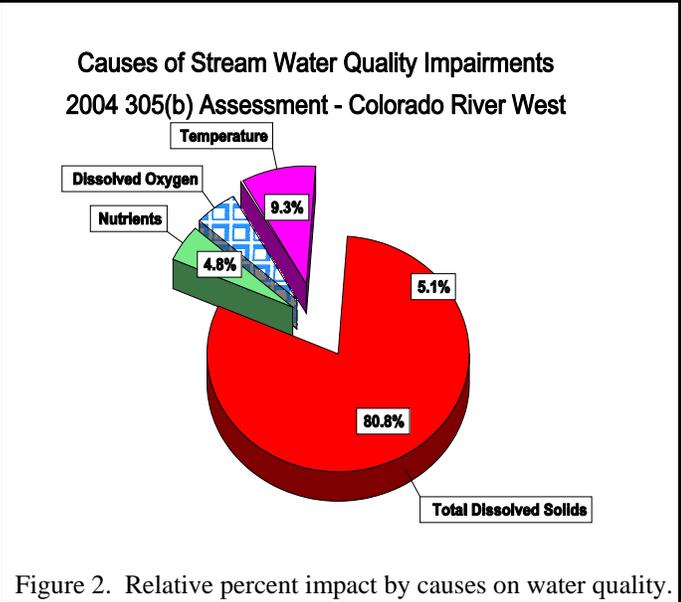


Figure 2. Relative percent impact by causes on water quality.

the name, description, and stream miles for each unit.

Table 2. Stream Miles by Assessment Category - Colorado River West

Category	Definition	Stream Miles
1	All designated beneficial uses were assessed and are fully supported.	0
2	Some of the designated uses are fully supported, but there is insufficient data to determine beneficial use support for the remaining designated uses.	1,339
3	Insufficient or no data and information to determine if any designated use is attained	453
4A	TMDL has been completed for all pollutants.	89
4B	Other pollution control requirements are reasonably expected to result in attainment of the water quality standard in the near future	0
4C	The impairment is not caused by a pollutant, e.g. habitat alteration.	0
5A	Assessment unit is impaired by a pollutant and a TMDL is needed.	489
5B	AUs are listed in this category to identify those pollutants for which a TMDL has been approved, but TMDLs are still required for other pollutants identified, water quality standards are now being met, new delineation of assessment unit, changes in beneficial use classification result in meeting standards, change in listing methods results in meeting standards or change in water quality standards and standards now being met.	14

Price River—Several segments of the Price River from its confluence to the Carbon Canal Diversion were assessed as partial supporting or non supporting their agricultural beneficial use designation. A TMDL has been submitted to EPA for these assessment units. The probable sources of the total dissolved solids were natural sources and agricultural activities such as irrigation return flows.

San Rafael River—The San Rafael River from the Green River to its confluence with Huntington and Cottonwood Creeks was assessed as not supporting its Class 4 (agriculture) designation because of the high levels of total dissolved solids.

Muddy River—Two segments of the Muddy River were assessed as non supporting agricultural usage because of high total dissolved solids. These two segments include the river from its confluence with the Dirty Devil River to the U-10 highway crossing. Like other streams in the West Colorado Unit, the probable sources were agricultural practices and natural.

Fremont River—A TMDL for the Fremont River from Bicknell to the U.S. Forest Service boundary has been completed and approved for low dissolved oxygen and total phosphorus. The Fremont River and tributaries from confluence with the Dirty Devil to the east boundary of Capitol Reef National Park also have a TMDL completed for total dissolved solids that affect agricultural use.

Other streams which had segments that exceeded the total dissolved solids criteria and were assessed as either partially or non supporting of their agricultural beneficial use were the lower portions of **Huntington Creek, Cottonwood Creek, Quitchipah Creek and Ivie Creek.**

Colorado River West Unit

Beneficial Use Classification

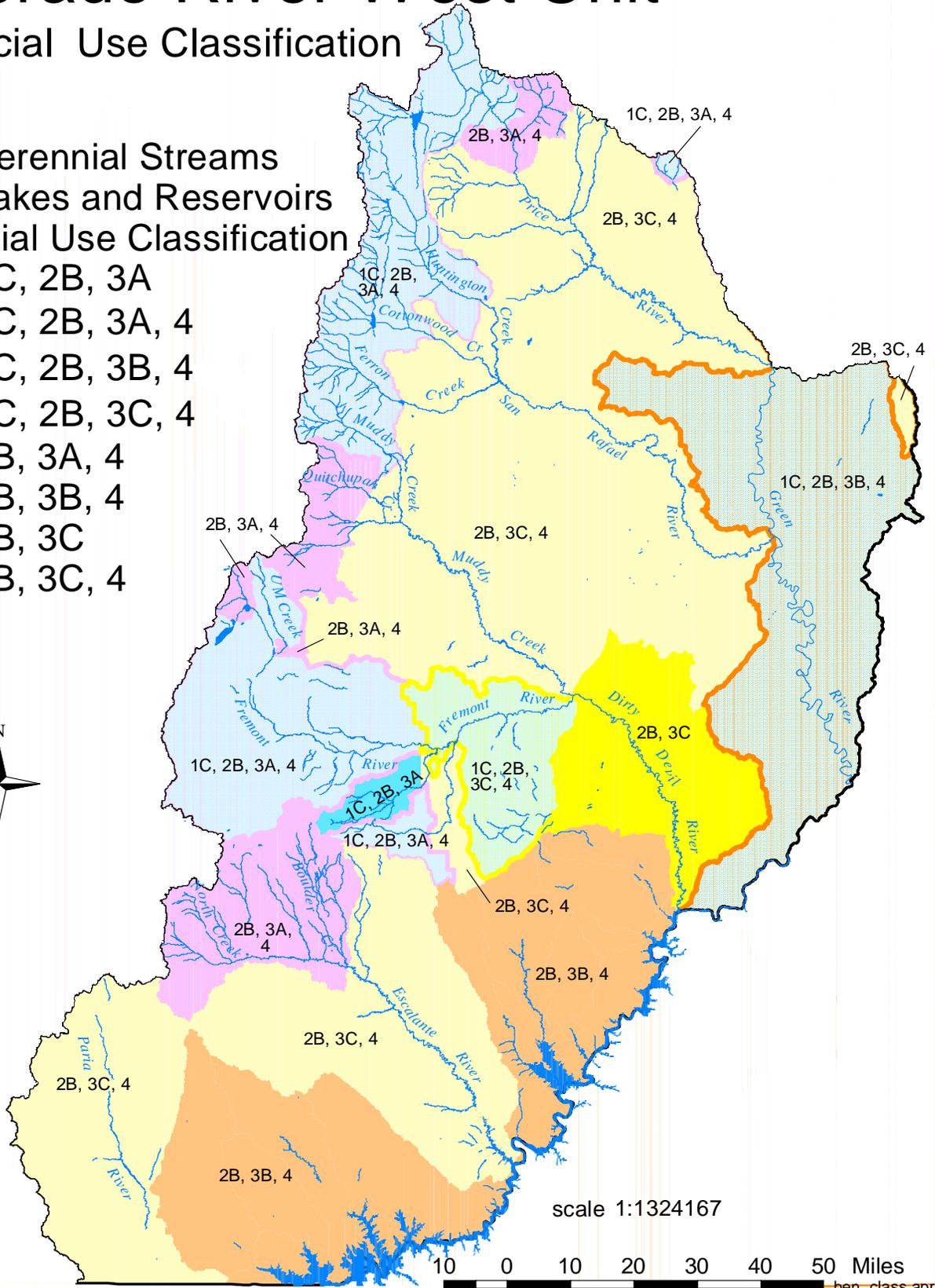
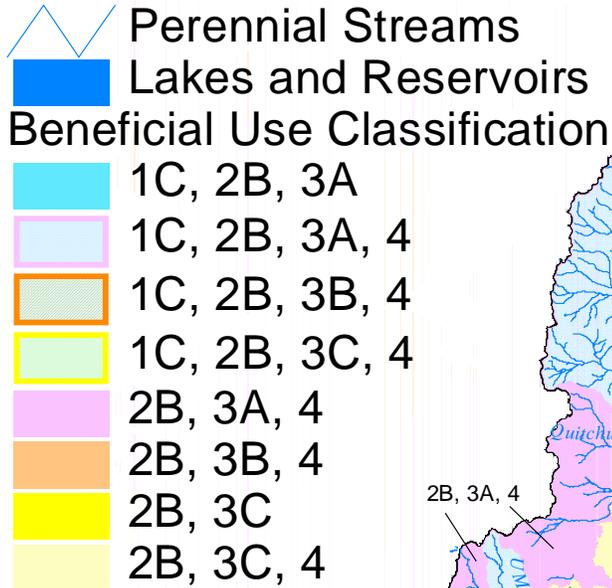


Figure 4. Designated beneficial uses for rivers and streams - Colorado River West.

Uinta Basin Management Unit

Assessment Categories

2004

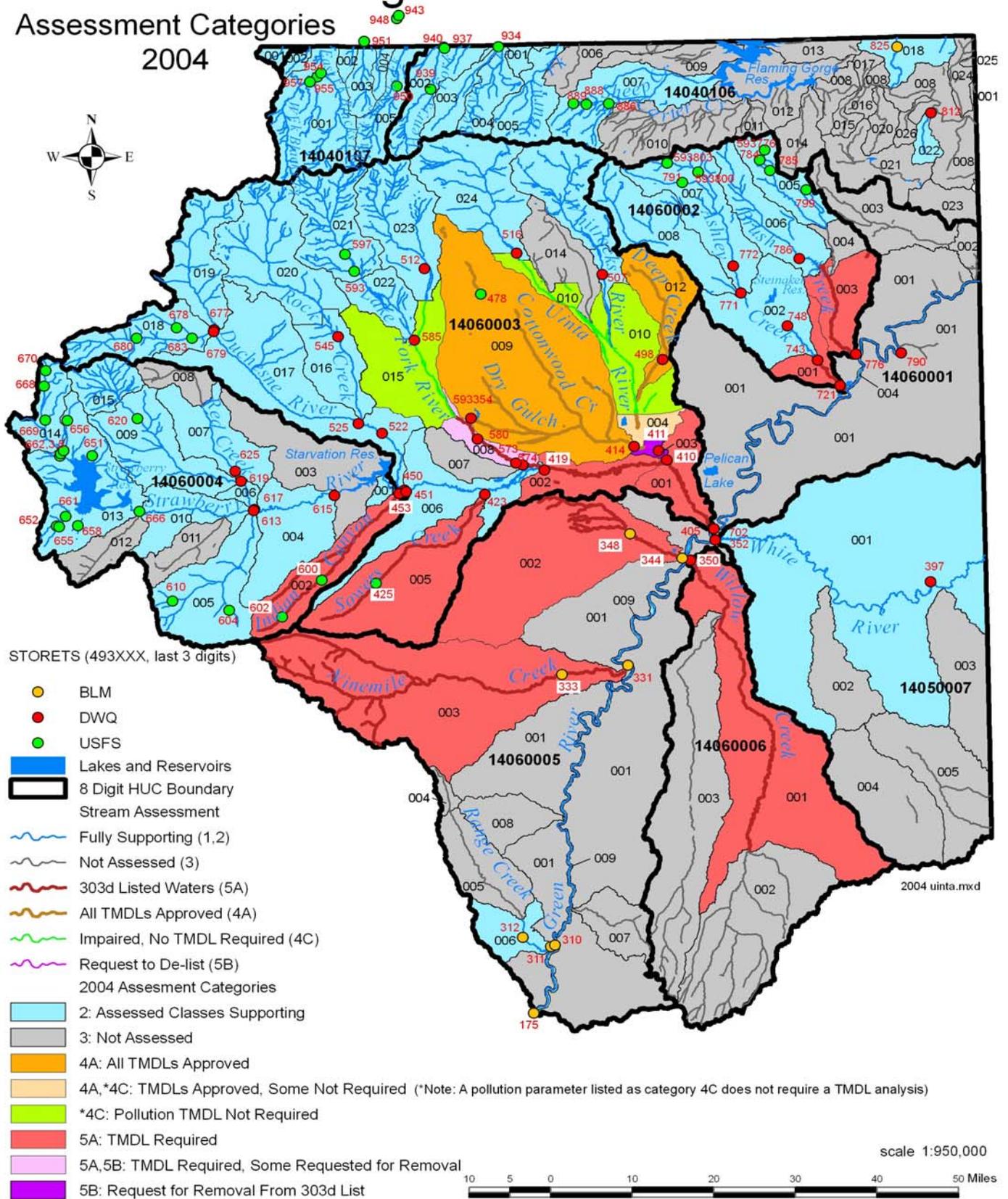


Figure 5. Beneficial use assessment by categories - Colorado River West Watershed Management Unit.

